

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. - 4. (canceled).

5. (previously presented): A chemical analysis system comprising:

a means for spotting a sample liquid onto a first chemical analysis element for measuring the concentration of a specific component contained in the sample liquid,

a means for spotting a sample liquid and a reference liquid onto a second chemical analysis element for measuring the activity of a specific ion contained in the sample liquid,

an incubator in which the first chemical analysis element spotted with the sample liquid and the second chemical analysis element spotted with the sample liquid and the reference liquid are placed and which holds the first and second chemical analysis elements at respective constant temperatures,

a concentration measuring means which is provided to measure the concentration of the specific component contained in the sample liquid by measuring the optical density of the color formed by the coloring reaction of the sample liquid and a reagent on the first chemical analysis element after incubation in the incubator,

an ionic activity measuring means which is provided to measure the ionic activity of the specific ion contained in the sample liquid after incubation in the incubator, and

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/236,897
Attorney Docket No.: Q53086

a temperature control means for automatically maintaining the first chemical analysis element at a first predetermined temperature suitable for measuring the optical density of the color formed by the coloring reaction and holds the second chemical analysis element at a second predetermined temperatures suitable for measuring ionic activity;

wherein the first predetermined temperature and the second predetermined temperature are differentiated by making an amount of heat transmitted to the first chemical analysis element different from that transmitted to the second chemical analysis element.

6. (original): A chemical analysis system as defined in Claim 5 further provided with a chemical analysis element supply section which stores both the first and second chemical analysis elements, and a conveyor means for conveying the chemical analysis element in the chemical analysis element supply section to the incubator.

7. (canceled).

8. (original): A chemical analysis system as defined in Claim 5 further provided with a diluting unit which includes a sample liquid container and dilutes the sample liquid in the container with diluent.

9. (currently amended): A chemical analysis system, comprising:
a spotting mechanism operable to spot a sample liquid onto a first chemical analysis element for measuring the concentration of a specific component contained in the sample liquid,

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/236,897
Attorney Docket No.: Q53086

and operable to spot a sample liquid and a reference liquid onto a second chemical analysis element for measuring the activity of a specific ion contained in the sample liquid;

an incubator in which the first chemical analysis element spotted with the sample liquid and the second chemical analysis element spotted with the sample liquid and the reference liquid are placed and which holds the first and second chemical analysis elements at constant temperatures;

a concentration measuring device operable to measure the concentration of the specific component contained in the sample liquid by measuring the optical density of the color formed by the coloring reaction of the sample liquid and a reagent on the first chemical analysis element after incubation in the incubator;

an ionic activity measuring device operable to measure the ionic activity of the specific ion contained in the sample liquid after incubation in the incubator;

a temperature control device comprising a temperature control element and a first pressing member for the first chemical analysis element in the incubator and a second pressing member for the second chemical analysis element in the incubator, the temperature control device holds the first and second chemical analysis elements at predetermined temperatures; and

a detector comprising a bar code reader for detecting the position of the chemical analysis element in which the chemical analysis element is conveyed by reading a bar code provided on each chemical analysis element,

wherein the first predetermined temperature and the second predetermined temperature are differentiated by making an amount of heat transmitted to the first chemical analysis element different from that transmitted to the second chemical analysis element.

10-12. (canceled).

13. (previously presented): A chemical analysis system as defined in claim 5, further provided with a receiving portion located in the incubator which stores a single chemical analysis element.

14. (previously presented): A chemical analysis system as defined in claim 13, further provided with a plurality of the receiving portions, which are located in the incubator, each for storing a chemical analysis element wherein the incubator is capable of simultaneously maintaining different temperatures in the different receiving portions.

15. (previously presented): A chemical analysis system as defined in claim 13, wherein the incubator is capable of simultaneously maintaining different temperatures for the first chemical analysis element and for the second chemical analysis element.

16. (currently amended): A chemical analysis system comprising:
means for spotting a sample liquid onto a first chemical analysis element for measuring the concentration of a specific component contained in the sample liquid,
means for spotting a sample liquid and a reference liquid onto a second chemical analysis element for measuring the activity of a specific ion contained in the sample liquid,

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/236,897
Attorney Docket No.: Q53086

an incubator capable of simultaneously maintaining two different temperatures for simultaneously holding the first chemical analysis element spotted with the sample liquid and the second chemical analysis element spotted with the sample liquid and the reference liquid,

a concentration measuring means which is provided to measure the concentration of the specific component contained in the sample liquid by measuring the optical density of the color formed by the coloring reaction of the sample liquid and a reagent on the first chemical analysis element after incubation in the incubator,

an ionic activity measuring means which is provided to measure the ionic activity of the specific ion contained in the sample liquid after incubation in the incubator, and

a temperature control means for holding the first chemical analysis element at a first predetermined temperature suitable for measuring the optical density of the color formed by the coloring reaction and holds the second chemical analysis element at a second predetermined temperature suitable for measuring the ionic activity,

wherein the temperature control means comprises one single heating means that cooperates with a first pressing member holding the first chemical analysis element in the incubator and a different second pressing member holding the second chemical analysis element in the incubator.

17. (previously presented): A chemical analysis system as defined in claim 16, further provided with a receiving portion located in the incubator which stores a single chemical analysis element.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/236,897
Attorney Docket No.: Q53086

18. (previously presented): A chemical analysis system as defined in claim 17, further provided with a plurality of the receiving portions, which are located in the incubator, each for storing a chemical analysis element wherein the incubator is capable of simultaneously maintaining different temperatures in the different receiving portions.

19. (previously presented): A chemical analysis system as defined in claim 16, wherein the incubator is capable of simultaneously maintaining the temperature of about 37°C at the receiving portion for storing the first chemical analysis element and the temperature of 30 °C at the receiving portion for the second chemical analysis element.

20. (previously presented): A chemical analysis system as defined in claim 16, further provided with a detector comprising a bar code reader for detecting the position of the chemical analysis element in which the chemical analysis element is conveyed by reading a bar code provided on the back of each chemical analysis element.

21. (currently amended): A chemical analysis system comprising:
a means for spotting a sample liquid onto a first chemical analysis element for measuring the concentration of a specific component contained in the sample liquid,
a means for spotting a sample liquid and a reference liquid onto a second chemical analysis element for measuring the activity of a specific ion contained in the sample liquid,
an incubator in which the first chemical analysis element spotted with the sample liquid and the second chemical analysis element spotted with the sample liquid and the reference liquid

are placed and which comprises a plurality of holding portions holding holds the first and second chemical analysis elements at constant temperatures,

a concentration measuring means which is provided to measure the concentration of the specific component contained in the sample liquid by measuring the optical density of the color formed by the coloring reaction of the sample liquid and a reagent on the first chemical analysis element after incubation in the incubator,

an ionic activity measuring means which is provided to measure the ionic activity of the specific ion contained in the sample liquid after incubation in the incubator,

means for automatically inserting the first and second chemical analysis elements into corresponding ones of the given holding positions-positions in the incubator according to type of chemical analysis element, and

a temperature control means for holding the first and second chemical analysis elements at predetermined temperatures based on the inserted position, wherein the first predetermined temperature and the second predetermined temperature are differentiated by making an amount of heat transmitted to the first chemical analysis element different from that transmitted to the second chemical analysis element.

22. (previously presented): A chemical analysis system comprising:

a means for spotting a sample liquid onto a first chemical analysis element for measuring the concentration of a specific component contained in the sample liquid,

a means for spotting a sample liquid and a reference liquid onto a second chemical analysis element for measuring the activity of a specific ion contained in the sample liquid,

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/236,897
Attorney Docket No.: Q53086

an incubator in which the first chemical analysis element spotted with the sample liquid and/or the second chemical analysis element spotted with the sample liquid and the reference liquid are placed and which holds the first and/or second chemical analysis elements at constant temperatures,

a concentration measuring means which is provided to measure the concentration of the specific component contained in the sample liquid by measuring the optical density of the color formed by the coloring reaction of the sample liquid and a reagent on the first chemical analysis element after incubation in the incubator,

an ionic activity measuring means which is provided to measure the ionic activity of the specific ion contained in the sample liquid after incubation in the incubator,

a temperature control means which holds the first chemical analysis element at a first predetermined temperature suitable for measuring the optical density of the color formed by the coloring reaction and holds the second chemical analysis elements at a second predetermined temperatures suitable for measuring ionic activity, wherein the first predetermined temperature and the second predetermined temperature are differentiated by making an amount of heat transmitted to the first chemical analysis element different from that transmitted to the second chemical analysis element, and

means for inserting the first and second chemical analysis elements into given positions in the incubator according to type of chemical analysis element,

wherein the given positions have different pressing members for maintaining the first and the second chemical analysis elements at different temperatures.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/236,897
Attorney Docket No.: Q53086

23. (previously presented): A chemical analysis system, comprising:

 a spotting mechanism operable to spot a sample liquid onto a first chemical analysis element for measuring the concentration of a specific component contained in the sample liquid, and operable to spot a sample liquid and a reference liquid onto a second chemical analysis element for measuring the activity of a specific ion contained in the sample liquid;

 an incubator in which the first chemical analysis element spotted with the sample liquid and the second chemical analysis element spotted with the sample liquid and the reference liquid are placed and which holds the first and second chemical analysis elements at constant temperatures;

 a concentration measuring device operable to measure the concentration of the specific component contained in the sample liquid by measuring the optical density of the color formed by the coloring reaction of the sample liquid and a reagent on the first chemical analysis element after incubation in the incubator;

 an ionic activity measuring device operable to measure the ionic activity of the specific ion contained in the sample liquid after incubation in the incubator;

 a temperature control device which holds the first and second chemical analysis elements at a first predetermined temperature and a second predetermined temperature, respectively, wherein the first predetermined temperature and the second predetermined temperature are differentiated by making an amount of heat transmitted to the first chemical analysis element different from that transmitted to the second chemical analysis element; and

 means for inserting the first and second chemical analysis elements into given positions in the incubator according to type of chemical analysis element,

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/236,897
Attorney Docket No.: Q53086

wherein the given positions determine the predetermined different temperatures at which the first and the second chemical analysis elements are held.

24. (currently amended): A chemical analysis system as defined in claim 9, wherein the first pressing member only holding the first chemical analysis element in the incubator is different in shape from the second pressing member only holding the second chemical analysis element in the incubator.

25. (previously presented): A chemical analysis system comprising:
means for spotting a sample liquid onto a first chemical analysis element for measuring a first chemical property of the sample liquid;

a means for spotting a sample liquid onto a second chemical analysis element for measuring a second chemical property of the sample liquid, which is different from the first chemical property;

an incubator for holding the first chemical analysis element spotted with the sample liquid and the second chemical analysis element spotted with the sample liquid, wherein the incubator holds the first and the second chemical analysis elements at a constant temperature or at different constant temperatures;

a first measuring means for measuring the first chemical property of the first chemical analysis element, the first measuring means being provided in the incubator;

a second measuring means for measuring the second chemical property of the second chemical analysis element, the second measuring means being provided in the incubator; and

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/236,897
Attorney Docket No.: Q53086

a temperature control means which holds the first and second chemical analysis elements at a first predetermined temperature and a second predetermined temperature, respectively, wherein the first predetermined temperature and the second predetermined temperature are differentiated by making an amount of heat transmitted to the first chemical analysis element different from that transmitted to the second chemical analysis element.

26. (currently amended): The chemical analysis system according to claim 25, wherein the first chemical property is concentration of a specific component contained in the sample liquid;

said first measuring means is a concentration measuring means for measuring the concentration of the specific component contained in the sample liquid by measuring optical density of a color formed by a coloring reaction of the sample liquid and a reagent on the first chemical analysis element after incubation;

the second chemical property is ionic activity of a specific ion contained in the sample liquid;

the second measuring means is an ionic activity measuring means for measuring the ionic activity of the specific ion contained in the sample liquid after incubation; ~~and further comprising a temperature control means for holding the first and the second chemical analysis elements at predetermined temperatures.~~

27. (previously presented): The chemical analysis system according to claim 26, further comprising a chemical analysis element supply section for storing both the first and second

chemical analysis elements, and a conveyor means for conveying the first and the second chemical analysis elements in the chemical analysis element supply section to the incubator.

28. (previously presented): The chemical analysis system according to claim 25, further comprising a detecting means for detecting the position of the chemical analysis elements by reading a bar code provided on each of the chemical analysis elements.

29. (previously presented): The chemical analysis system according to claim 25, further comprising a diluting unit, wherein the diluting unit comprises a sample liquid container and dilutes sample liquid in the container with diluent.

30. (previously presented): A chemical analysis system comprising:
means for spotting a sample liquid onto a first chemical analysis element for measuring concentration of a specific component contained in the sample liquid;
a means for spotting the sample liquid onto a second chemical analysis element for measuring activity of a specific ion contained in the sample liquid;

an incubator in which there is placed the first chemical analysis element spotted with the sample liquid, the second chemical analysis element spotted with the sample liquid, and a reference liquid, wherein the incubator holds the first and the second chemical analysis elements at constant temperatures;

a concentration measuring means for measuring the concentration of the specific component contained in the sample liquid on the first chemical analysis element, which is

AMENDMENT UNDER 37 C.F.R. § 1.111

U.S. Appln. No. 09/236,897

Attorney Docket No.: Q53086

provided in the incubator, by measuring the optical density of color formed by a coloring

reaction of the sample liquid and a reagent on the first chemical analysis element;

an ionic activity measuring means for measuring the ionic activity of the specific ion contained in the sample liquid on the second chemical analysis element, which is provided in the incubator; and

a temperature control means for holding the first chemical analysis element at a first predetermined temperature suitable for measuring the optical density of the color formed by the coloring reaction and for holding the second chemical analysis element at a second predetermined temperature suitable for measuring the ionic activity, wherein the first predetermined temperature and the second predetermined temperature are differentiated by making an amount of heat transmitted to the first chemical analysis element different from that transmitted to the second chemical analysis element.

31. (previously presented): The chemical analysis system according to claim 30, further comprising a chemical analysis element supply section which stores both the first and the second chemical analysis elements, and a conveyor means for conveying the chemical analysis elements from the chemical analysis element supply section to the incubator.

32. (previously presented): The chemical analysis system according to claim 30, further comprising a detecting means for detecting the position of the chemical analysis elements by reading a bar code provided on each of the chemical analysis elements.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/236,897
Attorney Docket No.: Q53086

33. (previously presented): The chemical analysis system according to claim 30, further comprising a diluting unit, wherein the diluting unit comprises a sample liquid container and dilutes a sample liquid in the container with diluent.

34. (previously presented): A chemical analysis system according to claim 5, wherein the temperature control means comprises one single heating means that cooperates with a first pressing member and a second pressing member.

35. (previously presented): The chemical analysis system according to claim 5, wherein the temperature control means maintains, without any involvement from a user, the first chemical analysis element at the first predetermined temperature suitable for measuring the optical density of the color formed by the coloring reaction and the second chemical analysis element at the second predetermined temperature suitable for measuring ionic activity.

36. (previously presented): The chemical analysis system according to claim 5, wherein the temperature control means maintains, without any involvement from a user, the first chemical analysis element at the first predetermined temperature suitable for measuring the optical density of the color formed by the coloring reaction and the second chemical analysis element at the second predetermined temperature suitable for measuring ionic activity, based on a position of the first and second chemical analysis elements.

AMENDMENT UNDER 37 C.F.R. § 1.111

U.S. Appln. No. 09/236,897

Attorney Docket No.: Q53086

37. (previously presented): The chemical analysis system according to claim 14, wherein the temperature control means maintains, without any involvement from a user, the first chemical analysis element at the first predetermined temperature suitable for measuring the optical density of the color formed by the coloring reaction and the second chemical analysis element at the second predetermined temperature suitable for measuring ionic activity, based on in which receiving portion from said different receiving portions the first and second chemical analysis elements are placed.

38. (previously presented): The chemical analysis system according to claim 37, wherein the different receiving portions have different pressure members and wherein the first chemical analysis element is positioned in a receiving portion with a first pressure member and the second chemical analysis element is positioned in a receiving portion with a second pressure member, and wherein the temperature control means cooperates with the first and second pressing members maintaining the first chemical analysis element at a temperature different from the second chemical analysis element.